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appeal brief
H. Chapman
PATENT 1-1323

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Applicant: D. Mauer et al.
Group Art Unit: 3726
Examiner: E. Omgba

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Title: RIVETING SYSTEM AND PROCESS FOR FORMING A
RIVETED JOINT

Attorney Docket: 0275M-000260/DVB

Hon. Commissioner of Patents and Trademarks
Washington, D.C. 20231

APPELLANT'S APPEAL BRIEF

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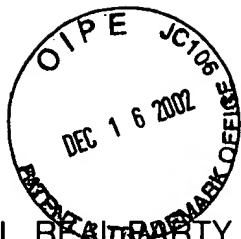


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This Appeal is filed under 37 C.F.R. §1.192 from the Final Rejection of Claims 1-53, as provided in the Final Office Action dated July 10, 2002, paper no. 8. The Notice of Appeal was filed by mail on October 10, 2002.

I. REAL PARTY IN INTEREST

The owner of the present patent application is Newfrey LLC by way of an assignment mailed to the U.S. Patent and Trademark Office on November 26, 2002 (no reel and frame number are currently known). It was previously assigned to Emhart LLC from Emhart Inc. by an assignment recorded on April 18, 2002, at reel/frame 013036/0919; and before that to Emhart Inc., by way of an Assignment from the inventors recorded on January 31, 2000, at reel/frame 010560/0045.

Emhart LLC, Emhart Inc., Black & Decker Corp., Emhart Fastening Technologies and Emhart Tucker, GmbH are companies related by ownership with Newfrey LLC.

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II. RELATED APPEALS AND INTERFERENCES

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No related appeals or interferences are presently pending for the present application or applications related thereto by a claim of priority.

III. STATUS OF CLAIMS

Claims 1-53 stand finally rejected and are the subject of this Appeal. A clean copy of the amended claims involved in the Appeal is attached hereto in Appendix A.

IV. STATUS OF AMENDMENTS

An Amendment was mailed on April 5, 2002 in response to an Office Action dated November 7, 2001, paper no. 3. A Supplemental Response to this Office Action was filed on June 12, 2002. A second Office Action was mailed on June 18, 2002, paper no. 6. A third and Final Office Action dated July 10, 2002, paper no. 8 was then mailed. Thereafter, a Response after Final was mailed on October 10, 2002. An Advisory Action was mailed on October 28, 2002, paper no. 12. All of the amendments have been entered.

V. SUMMARY OF THE INVENTION

Referring to Figures 1 and 2, a joining device for punch rivets, hereinafter known as a riveting system 21, includes a riveting machine or tool 23, a main electronic control unit 25, a rivet feeder 27, and the associated robotic tool movement mechanism and controls, if employed. Riveting tool 23 further has an electric motor actuator 29, a transmission unit, a plunger 31, a clamp 33 and a die or anvil 35. Die 35 is preferably attached to a C-shaped frame 37 or the like.

The transmission unit of riveting tool 23 includes a reduction gear unit 51 and a spindle drive mechanism 53. Plunger 31, also known as a punch assembly, includes a punch holder and punch. A data monitoring unit 61 may be part of the main controller 25, as shown in Figure 2, or can be a separate microprocessing unit, as shown in Figure 1, to assist in monitoring signals from the various sensors. (Application at p. 7, lines 4-20).

Figures 4 and 6 show a nut housing 101 directly connected to a central shaft of spur gear 81. Therefore, rotation of spur gear 81 causes a concurrent rotation of nut housing 101. A load cell 103 is concentrically positioned around proximal segment of nut housing 101. Load cell 103 is electrically connected to a load cell interface 105 (see Figure 3) which, in turn, is electrically connected to monitoring unit 61 (see Figure 1). (Application at p. 8, lines 15-22).

A rotatable nut 111, also known as a ball, is directly received and coupled with a distal segment of nut housing 101 such that rotation of nut housing 101 causes a simultaneously corresponding rotation of nut 111. A spindle 115 has a set of external threads which are enmeshed with a set of internal threads of nut 111. Hence, rotation of nut 111 causes linear advancing and retracting movement of spindle 115 along a longitudinal axis. A proximal end of a rod-like punch holder 121 is bolted to an end of spindle 115 for corresponding linear translation along the longitudinal axis. A rod-like punch 123 is longitudinally and coaxially fastened to a distal end of punch holder 121 for simultaneous movement therewith. (Application at p. 9, lines 4-13).

Referring to Figures 6 and 15, a spindle position proximity switch sensor 201 is mounted within riveting tool 23. A spring biased upper die and self-locking nut assembly 203 serves to actuate spindle position proximity switch 201 upon the spindle assembly reaching the fully retracted, home position. A plate thickness proximity switch sensor 205 is also mounted within riveting tool 23. An upper die type thickness measurement actuator and self-locking nut assembly 207 indicate the positioning of clamp 143 and thereby serve to actuate proximity sensor 205. Additional proximity switch sensors 281 and 283 are located in a feed tube for indicating the presence of a

rivet therein in a position acceptable for subsequent insertion into the receiver of riveting tool 23. These proximity switches 201, 205, 281 and 283 are all electrically connected to main electronic control unit 25 via module 601. Furthermore, a resolver-type sensor 211 is connected to electric motor 29 or a member rotated therewith. Resolver 211 serves to sense actuator torque, actuator speed and/or transmission torque. The signal is then sent by the resolver to main electronic control unit 25. An additional sensor (not shown) connected to electric motor 29 is operable to sense and indicate power consumption or other electrical characteristics of the motor which indicate the performance characteristics of the motor; such a sensed reading is then sent to main electronic control unit 25. (Application at p. 10, line 11 through page 11, line 6).

Figure 10 illustrates a feed tube 271 having end connectors 273 and 275. End connector 273 is secured to receiver 241 (see Figure 8) and connector end 275 is secured to feeder 27 (see Figure 2). Entry and exit proximity switch sensors 281 and 283, respectively, monitor the passage of each rivet through feed tube 271 and send the appropriate indicating signal to main electronic control unit 25 (see Figures 2 and 15). The rivets are pneumatically supplied from feeder 27 to receiver 241 through feed tube 271. (Application at p. 11, line 20 through p. 12, line 7).

Figure 9 shows a first alternate embodiment riveting system. A drive shaft 411 of drive unit 401 is connected to a belt wheel 412 of transmission unit 402. Belt wheel 412 drives a belt wheel 414 via an endless belt 413. (Application at p. 13, lines 3-9).

Returning to the preferred embodiment, Figures 12a-12f and Figures 13a-13e show the riveting process steps employing the system of the present invention. The

preferred rivet employed is of a self-piercing and hollow type which does not fully pierce through the die-side workpiece. (Application at p. 18, lines 4-7).

A simplified electrical diagram of the preferred embodiment riveting system is shown in Figure 14. A separate microprocessor controller 61 is connected to main electronic control unit 25 which measures the position of the spindle through a digital signal. Controller 61 receives an electric motor signal and a resolver signal. The load cell force signal is sent directly from the tool connection 105 to the main electronic control unit 25 while the proximity switch signals (from the feeder, feed tube and spindle home position sensors) are sent from the tool connection 71 through an input/output delivery microprocessor module 601 and then to main electronic control unit 25. Input/output delivery microprocessor module 601 actuates error message indication lamps 603, receives a riveting start signal from an operator activatable switch 605 and relays control signals to feeder 27 from main electronic control unit 25. An IBS/CAN gateway transmits data from main electronic control unit 25 to a host system which displays and records trends in data such as joint quality, workpiece thickness and the like. (Application at p. 19, line 19 through p. 20, line 13).

Figure 16 is a force/distance (displacement) graph showing a sequence of a single riveting operation or cycle. The first spiral spring distance range is indicative of the force and displacement of punch 123 due to light spring 128. The next displacement range entitled hold down spring, is indicative of the force and displacement generated by heavy spring 141, clamp 143 and the associated clamping nose piece 249. Measurement of the sheet metal/workpiece thickness occurs at a predetermined point within this range, such as 24 millimeters from the home position, by

way of load cell 103 interacting with main electronic control unit 25. In the next rivet length range, the rivet length is sensed and determined through load cell 103 and main electronic control unit 25. The middle line shown is the actual rivet signature sensed while the upper line shown is the maximum tolerance band and the lower line shown is the minimum tolerance band of an acceptable rivet length for use in the joining operation. If an out of tolerance rivet is received and indicated then the software will discontinue or "break off" the riveting process and send the appropriate error message.

Figure 17 shows a force versus distance/displacement graph for the rivet setting point. The sensed workpiece thickness, the middle line, is compared to a prestored maximum and minimum thickness acceptability lines within the main electronic control unit 25. This occurs at a predetermined distance of movement by the clamp assembly from the home position or other initialized position. The rivet length (or other size or material type) signature is also indicated and measured. Load cell 103 senses force of the clamp assembly and punch assembly. The workpiece thickness is determined by comparison of a first sensed force value at a preset displacement versus a preprogrammed force value at that location. Subsequently sensed force values are also compared to preset acceptable values; these subsequent sensed force values are indicative of rivet size and joint quality characteristics. The computer is always on-line with the tool and process in a closed-loop manner. This achieves a millisecond, real time control of the process through sensed values. (Application at p. 20, line 15 through p. 21, line 21).

Another alternate embodiment riveting system is illustrated in Figure 19. A robotically controlled riveting tool 801 is essentially the same as that disclosed with the

preferred embodiment. However, two separate rivet feeders 803 and 805 are employed. Thus, a single riveting tool can be used to rivet multiple joints having rivets of differing selected sizes or material characteristics without the need for complicated mechanical variations or multiple riveting tool set ups. The software program within main electronic control unit 813 can easily cause differing rivets to be sent to the single riveting tool 801, while changes can be easily made simply by reprogramming of the main electronic control unit. This saves space on the crowded assembly plant line, reduces mechanical complexity and reduces potential failure modes.

The accuracy of riveting, as well as measurements in the preferred embodiment, are insured by use of the highly accurate electric servo motor and rotary-to-linear drive mechanism employed. For example, the rivet can be inserted into the workpieces with one tenth of a millimeter of accuracy. The control system of the present invention also provides a real time quality indication of the joint characteristics, rather than the traditional random sampling conducted after many hundreds of parts were improperly processed. Thus, the present invention achieves higher quality, greater consistency and lower cost riveted joints as compared to conventional constructions. (Application at p. 23, line 18 through p. 25, line 5)

VI. ISSUES

The issues are as follows: (A) Claims 1, 2, 4-7, 9, 12, 13, 15-21, 50 and 53 stand rejected under 35 U.S.C. §103 (a) as allegedly being unpatentable over Speller, Jr. et al. (U.S. Patent No. 5,829,115) in view of Hatanaka (Japanese 04169828); (B) Claims 3, 8, 10, 11, 14, 51 and 52 stand rejected under 35 U.S.C. §103

(a) as allegedly being unpatentable over Speller, Jr. et al., Hatanaka and Gast (U.S. Patent No. 4,901,431); (C) Claims 22-30, 33, 34, 43 and 44 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Speller, Jr. et al. in view of Cotterill et al. (U.S. Patent No. 5,752,305); (D) Claims 31, 32, 35-42 and 45-47 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Speller, Jr. et al., Cotterill et al. and Gast; (E) Claim 48 stands rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Speller, Jr. et al. in view of Hatanaka and Gast; and (F) Claim 49 stands rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Speller, Jr. et al., Hatanaka, Gast and Cotterill et al.

VII. GROUPING OF CLAIMS

Based on the final rejections applied by the Examiner, all of the claims at issue stand or fall separately from each other for at least the reasons stated in the Argument section of this brief.

VIII. ARGUMENT

A. Legal Errors by Examiner re: Declarations Applicable to All Claims

“A prima facie case of nexus is generally made out when the patentee shows both that there is commercial success, and that the thing (product or method) that is commercially successful is the invention disclosed and claimed in the patent. When the thing that is commercially successful is not coextensive with the patented invention – for example, if the patented invention is only a component of a commercially successful machine or process – the patentee must show prima facie a legally sufficient

relationship between that which is patented and that which is sold.” *Demaco Corp. v. F. Von Langsdorff Licensing Ltd.*, 7 U.S.P.Q.2d 1222, 1226 (Fed. Cir. 1988). The Examiner can only rebut this prima facie case of nexus with tangible evidence that the commercial success was due to extraneous factors other than the patented invention such that the Examiner’s mere argument and conjecture are insufficient. *See, Id.* at 1226-27. Furthermore, a “patentee is not required to prove as part of its prima facie case that the commercial success of the patented invention is *not* due to factors other than the patented invention.” *Id.* at 1227. “When a prima facie case is made and not fully rebutted, the . . . [patent office] may not totally ignore the objective evidence.” *Id.* (emphasis added).

More specifically, the Declaration of Dieter Mauer (an inventor of the present application) was originally filed in a related application. This Mauer Declaration specified in paragraph 3 that the rivet machines sold to Audi contained the mechanical features presently disclosed in the present claims in dispute. The last sentence of paragraph 4 of the same declaration also states “[it] is further my understanding that Audi found the process data monitoring, sensing and controllability for the Emhart Tucker rivet machines to be technically desirable and superior to competitive rivet machines.” This indicates that the rivet machines sold to Audi also had the sensing and control features presently claimed. The control, electric motor, sensor and rotary-to-linear transmission features of the Audi machines are also well documented in the third party, Audi employee declaration of H. Konig paragraphs 3 and 7, thus demonstrating the requisite nexus.

Moreover, the technical basis for these machine acquisitions is significantly supported by paragraph 6 of the Audi employee Konig declaration. Similarly, section 4 of the Mauer Declaration clarifies that Audi purchased these rivet machines "primarily based on their technical merit rather than sales, marketing, advertising or price considerations." In contrast, the Examiner's case citations and arguments are distinguishable from the present facts and the Examiner's application of these cases were overly superficial. Accordingly, the proper nexus between the commercial success and claimed invention has been proven.

The Examiner also improperly dismissed the declarations by requiring market share information. "Although sales figures coupled with market data provides stronger evidence of commercial success, sales figures alone are also evidence of commercial success." *Tec Air Inc. v. Denso Mfg. Michigan Inc.*, 52 U.S.P.Q.2d 1294, 1299 (Fed. Cir. 1999). This Federal Circuit case should be given more precedential value than the Board of Patent Appeals and Interferences case cited by the Examiner. Notwithstanding, it is believed that Applicants' company, Emhart Tucker GmbH, is one of at least three significant suppliers of related machinery in Europe and the present invention was first presented to customers around 1998 or 1999.. Accordingly, the Examiner legally erred by not properly considering the declarations filed in the present application as to commercial success and nonobviousness.

B. 35 U.S.C. §103 Rejection of Claims 1, 2, 4-7, 9, 12, 13, 15-21, 50 and 53

In the Final Office Action, the Examiner had rejected Claims 1, 2, 4-7, 9, 12, 13, 15-21, 50 and 53 under 35 U.S.C. §103 (a) as allegedly being unpatentable over

Speller, Jr. et al. (U.S. Patent No. 5,829,115) in view of Hatanaka (Japanese 04169828). This rejection is respectfully traversed. Reconsideration and reversal are respectfully requested.

1. Scope, Content and Differences of Prior Art

Under 35 U.S.C. §103, “the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined.” *Graham v. John Deere Co. of Kansas City*, 148 U.S.P.Q. 459, 467 (U.S. 1966). In the Final Office Action, the Examiner has misstated (a) the scope and content of all of the cited references and (b) the Examiner has incorrectly analyzed the similarity and differences between all of the cited references as compared to the claimed invention.

2. Level of One Skilled in Art

The level of one of ordinary skill in the art of the present application would be a person with a mechanical engineering degree and about five years of experience in the design of riveting machines, or the equivalent practical experience. This skilled artisan would also need to have some exposure to high volume riveting of metal panels in a manufacturing plant, such as an automotive assembly plant.

3. Legal Errors by Examiner

The Examiner has incorrectly stated that Speller, Jr. et al. is 35 U.S.C. §102(b) prior art against the present application. See Paper No. 3. The Examiner then

based a 35 U.S.C. §103 rejection on this erroneous foundation. The grandparent U.S. application was filed on July 20, 1998 (claiming priority to a German application filed July 21, 1997) but the Speller, Jr. et al. patent did not issue until November 3, 1998.

Further in contrast to the Examiner's assertions, the presently claimed combination of elements in Claims 1, 2, 4-7, 9, 12, 13, 15-21, 50 and 53 is new and nonobvious. "Virtually all inventions are combinations of old elements" such that "rejecting patents solely by finding prior art corollaries for the claimed elements would permit an examiner to use the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention. Such an approach would be an illogical and inappropriate process by which to determine patentability." *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1457 (Fed. Cir. 1998). Furthermore, the references applied by the Examiner do not contain the requisite suggestion or motivation necessary to show obviousness of the claimed invention. *See, Smith Indus. Medical Sys. Inc. v. Vital Signs Inc.*, 51 U.S.P.Q.2d 1415, 1420-21 (Fed. Cir. 1999).

The Examiner has ignored the secondary consideration of commercial success as presented in the Declarations under 37 C.F.R. §1.132 by inventor D. Mauer and customer H. Konig of Audi. These Declarations are clear that the commercial success is primarily based on the technical merit of the claimed invention. These Declarations must be given their proper objective and significant weight to defeat obviousness. *See, Stratoflex, Inc. v. Aeroquip Corp.*, 218 U.S.P.Q. 871, 880 (Fed Cir. 1983) ("secondary considerations must always . . . be considered"); *see also, Truswal Sys. Corp. v. Hydro-Air Eng'g. Inc.*, 2 U.S.P.Q.2d 1034, 1039 (Fed. Cir. 1987) ("secondary in time does not mean that it is secondary in importance").

4. Lack of Suggestion to Combine References

None of the references cited by the Examiner disclose the above mentioned features, nor is there a suggestion or motivation to combine the cited references, and therefore, the claims at issue are patentably distinct over the cited references.

“Care must be taken to avoid hindsight reconstruction by using the patent-in-suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit.” *Grain Processing Corp. v. American Maize-Prods. Co.*, 5 U.S.P.Q.2d 1788, 1792 (Fed. Cir. 1988) (inner quotes omitted). The Examiner should not “pick and choose among the individual elements of assorted prior art references to recreate the claimed invention.” *Symbol Technologies Inc. v. Opticon Inc.*, 19 U.S.P.Q.2d 1241, 1246 (Fed. Cir. 1991). *See also, In re Wesslau*, 147 U.S.P.Q. 391, 393 (C.C.P.A. 1965). The Examiner must identify the explicit statements in the prior art that demonstrate the alleged motivation, suggestion or teaching, and broad “conclusory statements standing alone are not ‘evidence’.” *In re Kotzab*, 55 U.S.P.Q.2d 1313, 1317 (Fed. Cir. 2000); *see also, In re Dembiczak*, 50 U.S.P.Q.2d 1614 (Fed. Cir 1999). In this regard, the Examiner has respectfully failed.

In contrast to the Examiner’s incorrect assertions, there is no suggestion or motivation to combine the electrically driven machine of Speller, Jr. et al. (‘115) with the hydraulically actuated machine of the Japanese Hatanaka reference. To the contrary, the third party, Audi employee declaration of Konig states that in paragraph 6

that the electric motor driven, rotary-to-linear transmission, with sensor control
“technology here employed is not to our knowledge usable for other, e.g., hydraulic,
systems.” (emphasis added). This is the statement from a third party customer, Audi, who was comparing a hydraulically driven self piercing riveting machine to the Emhart Tucker riveting machine disclosed and claimed in the present application.

Moreover, Speller, Jr. et al. ('115), at column 1, lines 20-27, and in column 2, lines 11-18, teaches away from and discourages the use of hydraulics for riveting machines. See generally, *Winner Int'l Royalty Corp. v. Wang*, 53 U.S.P.Q.2d 1580, 1588 (Fed. Cir. 2000), *cert. denied*, 530 U.S. 1238 (2000) (if a reference teaches away then that fact alone can defeat obviousness). Significant reengineering would be required to combine these two cited devices if that is even possible; it would clearly not be desirable given the background of the Speller, Jr. et al. ('115) patent and statement of the Audi employee. This is even more significant given that the Speller, Jr. et al. ('115) patent is primarily intended for use to upset a two sided rivet adjacent the anvil 50 and not actually to receive and drive the rivet itself into a workpiece (see column 4, lines 4-8 of the '115 patent).

In the present situation, even if the cited references disclose the features incorrectly alleged by the Examiner, the suggestion or motivation to combine the disparate references to arrive at the elements as presently claimed, is severely lacking. The claimed invention has been improperly used as a template to combine these assorted and far flung elements, thereby requiring the Examiner to withdraw and overturn the instant rejection. The secondary considerations of commercial success

and the teaching away from by others require a finding of nonobviousness of the presently claimed invention.

5. Factual Errors by Examiner for Dependent Claims

The Examiner has made further factual errors with regard to the dependent claims. There is no teaching, suggestion or motivation by the cited references for the new and nonobvious combination of elements, especially when the additional elements of each of the dependent claims is considered. For example, none of the references cited even disclose the workpiece thickness sensor claimed in dependent Claim 9. Also, none of the cited references specifically teach the additional feature of an electric motor torque sensor as claimed in dependent Claim 20. Additionally, none of the cited references specifically teach elements contained within dependent Claim 53, including “continuously comparing actual workpiece thickness signals to previously stored workpiece thickness signals.” With all due respect, the Examiner is simply mistaken in his reading and application of the prior art. Accordingly, it is respectfully requested that the Examiner’s rejection should be reversed.

C. 35 U.S.C. §103 Rejection of Claims 3, 8, 10, 11, 14, 51 and 52

In the Final Office Action, the Examiner has rejected Claims 3, 8, 10, 11, 14, 51 and 52 under 35 U.S.C. §103(a) as allegedly being unpatentable over Speller, Jr. et al. (U.S. Patent No. 5,829,115), Hatanaka (Japanese 04169828) and Gast (U.S. Patent No. 4,901,431). This rejection is respectfully traversed. Reconsideration and reversal are respectfully requested.

1. Scope, Content and Differences of Prior Art

Under 35 U.S.C. §103, “the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined.” *Graham v. John Deere Co. of Kansas City*, 148 U.S.P.Q. 459, 467 (U.S. 1966). In the Final Office Action, the Examiner has misstated (a) the scope and content of all of the cited references and (b) the Examiner has incorrectly analyzed the similarity and differences between all of the cited references as compared to the claimed invention.

2. Level of One Skilled in Art

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3. Legal Errors by Examiner

The Examiner has incorrectly stated that Speller, Jr. et al. is 35 U.S.C. §102(b) prior art against the present application. See Paper No. 3. The Examiner then bases a 35 U.S.C. §103 rejection on this erroneous foundation. The grandparent U.S. application was filed on July 20, 1998 (claiming priority to a German application filed July 21, 1997) but the Speller, Jr. et al. patent did not issue until November 3, 1998.

Further in contrast to the Examiner's assertions, the presently claimed combination of elements in Claims 3, 8, 10, 11, 14, 51 and 52 is new and nonobvious. "Virtually all inventions are combinations of old elements" such that "rejecting patents solely by finding prior art corollaries for the claimed elements would permit an examiner to use the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention. Such an approach would be an illogical and inappropriate process by which to determine patentability." *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1457 (Fed. Cir. 1998). Furthermore, the references applied by the Examiner do not contain the requisite suggestion or motivation necessary to show obviousness of the claimed invention. *See, Smith Indus. Medical Sys. Inc. v. Vital Signs Inc.*, 51 U.S.P.Q.2d 1415, 1420-21 (Fed. Cir. 1999).

The Examiner has ignored or improperly discounted the secondary consideration of commercial success as presented in the Declarations under 37 C.F.R. §1.132 by inventor D. Mauer and customer H. Konig of Audi. These Declarations are clear that the commercial success is primarily based on the technical merit of the claimed invention. These Declarations must be given their proper objective and significant weight to defeat obviousness. *See, Stratoflex, Inc. v. Aeroquip Corp.*, 218 U.S.P.Q. 871, 880 (Fed Cir. 1983) ("secondary considerations must always . . . be considered"); *see also, Truswal Sys. Corp. v. Hydro-Air Eng'g. Inc.*, 2 U.S.P.Q.2d 1034, 1039 (Fed. Cir. 1987) ("secondary in time does not mean that it is secondary in importance").

4. Lack of Suggestion to Combine References

None of the references cited by the Examiner disclose the above mentioned features, nor is there a suggestion or motivation to combine the cited references, and therefore, the claims at issue are patentably distinct over the cited references.

“Care must be taken to avoid hindsight reconstruction by using the patent-in-suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit.” *Grain Processing Corp. v. American Maize-Prods. Co.*, 5 U.S.P.Q.2d 1788, 1792 (Fed. Cir. 1988) (inner quotes omitted). The Examiner should not “pick and choose among the individual elements of assorted prior art references to recreate the claimed invention.” *Symbol Technologies Inc. v. Opticon Inc.*, 19 U.S.P.Q.2d 1241, 1246 (Fed. Cir. 1991). *See also, In re Wesslau*, 147 U.S.P.Q. 391, 393 (C.C.P.A. 1965). The Examiner must identify the explicit statements in the prior art that demonstrate the alleged motivation, suggestion or teaching, and broad “conclusory statements standing alone are not ‘evidence’.” *In re Kotzab*, 55 U.S.P.Q.2d 1313, 1317 (Fed. Cir. 2000); *see also, In re Dembiczak*, 50 U.S.P.Q.2d 1614 (Fed. Cir 1999). In this regard, the Examiner has respectfully failed.

More specifically, Gast generally relates to a feeding and riveting machine using pneumatically and hydraulically actuated components for inserting a fastener, pulling a fastener stem until it breaks, detecting the breaking of the fastener stem, and releasing the fastener stem. (See column 2, lines 46-51 of the Gast patent). Significant reengineering would be required to combine the very complicated features of the Gast

reference with the others cited and there is no suggestion or motivation to do so. Moreover, the background section of Speller, Jr. et al. ('115) teaches away from its features being combined with hydraulics. Accordingly, it is respectfully requested that the Examiner's rejection be reversed.

D. 35 U.S.C. §103 Rejection of Claims 22-30, 33, 34, 43 and 44

In the Final Office Action, the Examiner had rejected Claims 22-30, 33, 34, 43 and 44 under 35 U.S.C. §103(a) as allegedly being unpatentable over Speller, Jr. et al. (U.S. Patent No. 5,829,115) in view of Cotterill et al. (U.S. Patent No. 5,752,305). This rejection is respectfully traversed. Reconsideration and reversal are respectfully requested.

1. Scope, Content and Differences of Prior Art

Under 35 U.S.C. §103, "the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined." *Graham v. John Deere Co. of Kansas City*, 148 U.S.P.Q. 459, 467 (U.S. 1966). In the Final Office Action, the Examiner has misstated (a) the scope and content of all of the cited references and (b) the Examiner has incorrectly analyzed the similarity and differences between all of the cited references as compared to the claimed invention.

2. Level of One Skilled in Art

The level of one of ordinary skill in the art of the present application would be a person with a mechanical engineering degree and about five years of experience in the design of riveting machines, or the equivalent practical experience. This skilled artisan would also need to have some exposure to high volume riveting of metal panels in a manufacturing plant, such as an automotive assembly plant.

3. Legal Errors by Examiner

The Examiner has incorrectly stated that Speller, Jr. et al. is 35 U.S.C. §102(b) prior art against the present application. See Paper No. 3. The Examiner then bases a 35 U.S.C. §103 rejection on this erroneous foundation. The grandparent U.S. application was filed on July 20, 1998 (claiming priority to a German application filed July 21, 1997) but the Speller, Jr. et al. patent did not issue until November 3, 1998.

Further in contrast to the Examiner's assertions, the presently claimed combination of elements in Claims 22-30, 33, 34, 43 and 44 is new and nonobvious. "Virtually all inventions are combinations of old elements" such that "rejecting patents solely by finding prior art corollaries for the claimed elements would permit an examiner to use the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention. Such an approach would be an illogical and inappropriate process by which to determine patentability." *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1457 (Fed. Cir. 1998). Furthermore, the references applied by the Examiner do not contain the requisite suggestion or motivation necessary

to show obviousness of the claimed invention. *See, Smith Indus. Medical Sys. Inc. v. Vital Signs Inc.*, 51 U.S.P.Q.2d 1415, 1420-21 (Fed. Cir. 1999).

The Examiner has ignored or improperly discounted the secondary consideration of commercial success as presented in the Declarations under 37 C.F.R. §1.132 by inventor D. Mauer and customer H. Konig of Audi. These Declarations are clear that the commercial success is primarily based on the technical merit of the claimed invention. These Declarations must be given their proper objective and significant weight to defeat obviousness. *See, Stratoflex, Inc. v. Aeroquip Corp.*, 218 U.S.P.Q. 871, 880 (Fed. Cir. 1983) (“secondary considerations must always . . . be considered”); *see also, Truswal Sys. Corp. v. Hydro-Air Eng'g. Inc.*, 2 U.S.P.Q.2d 1034, 1039 (Fed. Cir. 1987) (“secondary in time does not mean that it is secondary in importance”).

4. Lack of Suggestion to Combine References

None of the references cited by the Examiner disclose the above mentioned features, nor is there a suggestion or motivation to combine the cited references, and therefore, the claims at issue are patentably distinct over the cited references.

“Care must be taken to avoid hindsight reconstruction by using the patent-in-suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit.” *Grain Processing Corp. v. American Maize-Prods. Co.*, 5 U.S.P.Q.2d 1788, 1792 (Fed. Cir. 1988) (inner quotes omitted). The Examiner should not “pick and choose among the

individual elements of assorted prior art references to recreate the claimed invention.” *Symbol Technologies Inc. v. Opticon Inc.*, 19 U.S.P.Q.2d 1241, 1246 (Fed. Cir. 1991). *See also, In re Wesslau*, 147 U.S.P.Q. 391, 393 (C.C.P.A. 1965). The Examiner must identify the explicit statements in the prior art that demonstrate the alleged motivation, suggestion or teaching, and broad “conclusory statements standing alone are not ‘evidence’.” *In re Kotzab*, 55 U.S.P.Q.2d 1313, 1317 (Fed. Cir. 2000); *see also, In re Dembiczak*, 50 U.S.P.Q.2d 1614 (Fed. Cir 1999). In this regard, the Examiner has respectfully failed.

In contrast to the Examiner’s incorrect assertions, there is no suggestion or motivation to combine the electrically driven machine of Speller, Jr. et al. (‘115) with the hydraulically actuated machine of the Japanese Hatanaka reference. To the contrary, the Audi third party, employee declaration of Konig states that in paragraph 6 that the “technology here employed is not to our knowledge usable for other, e.g., hydraulic, systems.” (emphasis added). This is the statement from a third party customer, Audi, who was comparing a hydraulically driven self piercing riveting machine to the Emhart Tucker riveting machine disclosed and claimed in the present application.

Moreover, Speller, Jr. et al. (‘115), at column 1, lines 20-27, and in column 2, lines 11-18, teaches away from and discourages the use of hydraulics for riveting machines. *See generally, Winner Int’l Royalty Corp. v. Wang*, 53 U.S.P.Q.2d 1580, 1588 (Fed. Cir. 2000), *cert. denied*, 530 U.S. 1238 (2000) (if a reference teaches away then that fact alone can defeat obviousness). Significant reengineering would be required to combine these two cited devices if that is even possible; it would clearly not be desirable given the background of the Speller, Jr. et al. (‘115) patent and statement

of the Audi employee. This is even more significant given that the Speller, Jr. et al. ('115) patent is primarily intended for use to upset a rivet adjacent the anvil 50 and not actually to receive and drive the rivet itself into a workpiece (see column 4, lines 4-8 of the '115 patent).

Moreover, it is significant that the electric motor disclosed in Speller, Jr. et al. ('115) upsets a conventional two-sided rivet on the anvil or die side of the machine. (See column 4, lines 4-10 of '115 patent). The Speller, Jr. et al. device is intended for use with a drill, a hole probe, a shave tool, a seal tool and a riveter in order to predrill a hole in the work piece, insert the rivet and upset the rivet. (See column 6, lines 50-54 and Figure 9 of '115 patent). This is significantly different than the self piercing rivet operation employed in the Cotterill et al. reference and as claimed as elements (e) and (f) in Claim 22, element (c) of Claim 34, and as element (c) of Claim 43. There is no suggestion or motivation to combine these very different types of fasteners.

By way of further example, element (c) of Claim 34 includes setting the rivet "by the punch acting with a substantially relatively stationary die." The movable anvil of Speller, Jr. et al. '115 teaches away from this feature. It is also noteworthy that neither Speller, Jr. et al. ('115) or Cotterill et al. teach, suggest or motivate "a sensor operable to indicate power consumption of the electric motor" as is claimed in independent Claim 43 as part of element (d).

In the present situation, even if the cited references disclose the features incorrectly alleged by the Examiner, the suggestion or motivation to combine the disparate references to arrive at the elements as presently claimed, is severely lacking. The claimed invention has been improperly used as a template to combine these

assorted and far flung elements, thereby requiring reversal of the instant rejection. The secondary considerations of commercial success and the teaching away from by others, as demonstrated by the declarations, further require a finding of nonobviousness of the presently claimed invention. Accordingly, it is respectfully requested that the Board reverse the Examiner's rejections.

E. 35 U.S.C. §103 Rejection of Claims 31, 32, 35-42 and 45-47

In the Final Office Action, the Examiner had rejected Claims 31, 32, 35-42 and 45-47 under 35 U.S.C. §103(a) as allegedly being unpatentable over Speller, Jr. et al. (U.S. Patent No. 5,829,115), Cotterill et al. (U.S. Patent No. 5,752,305) and Gast (U.S. Patent No. 4,901,431).

1. Scope, Content and Differences of Prior Art

Under 35 U.S.C. §103, "the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined." *Graham v. John Deere Co. of Kansas City*, 148 U.S.P.Q. 459, 467 (U.S. 1966). In the Final Office Action, the Examiner has misstated (a) the scope and content of all of the cited references and (b) the Examiner has incorrectly analyzed the similarity and differences between all of the cited references as compared to the claimed invention.

2. Level of One Skilled in Art

The level of one of ordinary skill in the art of the present application would be a person with a mechanical engineering degree and about five years of experience in the design of riveting machines, or the equivalent practical experience. This skilled artisan would also need to have some exposure to high volume riveting of metal panels in a manufacturing plant, such as an automotive assembly plant.

3. Legal Errors by Examiner

The Examiner has incorrectly stated that Speller, Jr. et al. is 35 U.S.C. §102(b) prior art against the present application. See Paper No. 3. The Examiner then bases a 35 U.S.C. §103 rejection on this erroneous foundation. The grandparent U.S. application was filed on July 20, 1998 (claiming priority to a German application filed July 21, 1997) but the Speller, Jr. et al. patent did not issue until November 3, 1998.

Further in contrast to the Examiner's assertions, the presently claimed combination of elements in Claims 31, 32, 35-42 and 45-47 is new and nonobvious. "Virtually all inventions are combinations of old elements" such that "rejecting patents solely by finding prior art corollaries for the claimed elements would permit an examiner to use the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention. Such an approach would be an illogical and inappropriate process by which to determine patentability." *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1457 (Fed. Cir. 1998). Furthermore, the references applied by the Examiner do not contain the requisite suggestion or motivation necessary

to show obviousness of the claimed invention. See, *Smith Indus. Medical Sys. Inc. v. Vital Signs Inc.*, 51 U.S.P.Q.2d 1415, 1420-21 (Fed. Cir. 1999).

The Examiner has ignored or improperly discounted the secondary consideration of commercial success as presented in the Declarations under 37 C.F.R. §1.132 by inventor D. Mauer and customer H. Konig of Audi. These Declarations are clear that the commercial success is primarily based on the technical merit of the claimed invention. These Declarations must be given their proper objective and significant weight to defeat obviousness. See, *Stratoflex, Inc. v. Aeroquip Corp.*, 218 U.S.P.Q. 871, 880 (Fed Cir. 1983) ("secondary considerations must always . . . be considered"); see also, *Truswal Sys. Corp. v. Hydro-Air Eng'g. Inc.*, 2 U.S.P.Q.2d 1034, 1039 (Fed. Cir. 1987) ("secondary in time does not mean that it is secondary in importance").

4. Lack of Suggestion to Combine References

None of the references cited by the Examiner disclose the above mentioned features, nor is there a suggestion or motivation to combine the cited references, and therefore, the claims at issue are patentably distinct over the cited references.

"Care must be taken to avoid hindsight reconstruction by using the patent-in-suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit." *Grain Processing Corp. v. American Maize-Prods. Co.*, 5 U.S.P.Q.2d 1788, 1792 (Fed. Cir. 1988) (inner quotes omitted). The Examiner should not "pick and choose among the

individual elements of assorted prior art references to recreate the claimed invention.” *Symbol Technologies Inc. v. Opticon Inc.*, 19 U.S.P.Q.2d 1241, 1246 (Fed. Cir. 1991). *See also, In re Wesslau*, 147 U.S.P.Q. 391, 393 (C.C.P.A. 1965). The Examiner must identify the explicit statements in the prior art that demonstrate the alleged motivation, suggestion or teaching, and broad “conclusory statements standing alone are not ‘evidence’.” *In re Kotzab*, 55 U.S.P.Q.2d 1313, 1317 (Fed. Cir. 2000); *see also, In re Dembiczak*, 50 U.S.P.Q.2d 1614 (Fed. Cir 1999). In this regard, the Examiner has respectfully failed.

None of the cited references disclose the additional features added by each and every one of the noted dependent claims, especially in combination with the base independent claims. For example, none of the cited references teach the endless belt of dependent Claim 47; the Examiner’s assumptions are unsupported.

In the present situation, even if the cited references disclose the features incorrectly alleged by the Examiner, the suggestion or motivation to combine the disparate references to arrive at the elements as presently claimed, is severely lacking. The claimed invention has been improperly used as a template to combine these assorted and far flung elements, thereby requiring the Examiner to withdraw and overturn the instant rejection. The secondary considerations of commercial success and the teaching away from by others, as demonstrated by the declarations, further require a finding of nonobviousness of the presently claimed invention. Accordingly, it is respectfully requested that the Board reverse the Examiner’s rejections.

F. 35 U.S.C. §103 Rejection of Claim 48

In the Final Office Action, the Examiner had rejected Claim 48 under 35 U.S.C. 103(a) as allegedly being unpatentable over Speller, Jr. et al. (U.S. Patent No. 5,829,115) in view of Hatanaka (Japanese 169828) and Gast (U.S. Patent No. 4,901,431). This rejection is respectfully traversed. Reconsideration and reversal are respectfully requested.

1. Scope, Content and Differences of Prior Art

Under 35 U.S.C. §103, "the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined." *Graham v. John Deere Co. of Kansas City*, 148 U.S.P.Q. 459, 467 (U.S. 1966). In the Final Office Action, the Examiner has misstated (a) the scope and content of all of the cited references and (b) the Examiner has incorrectly analyzed the similarity and differences between all of the cited references as compared to the claimed invention.

2. Level of One Skilled in Art

The level of one of ordinary skill in the art of the present application would be a person with a mechanical engineering degree and about five years of experience in the design of riveting machines, or the equivalent practical experience. This skilled artisan would also need to have some exposure to high volume riveting of metal panels in a manufacturing plant, such as an automotive assembly plant.

3. Legal Errors by Examiner

The Examiner has incorrectly stated that Speller, Jr. et al. is 35 U.S.C. §102(b) prior art against the present application. See Paper No. 3. The Examiner then bases a 35 U.S.C. §103 rejection on this erroneous foundation. The grandparent U.S. application was filed on July 20, 1998 (claiming priority to a German application filed July 21, 1997) but the Speller, Jr. et al. patent did not issue until November 3, 1998.

Further in contrast to the Examiner's assertions, the presently claimed combination of elements in Claims 48 is new and nonobvious. "Virtually all inventions are combinations of old elements" such that "rejecting patents solely by finding prior art corollaries for the claimed elements would permit an examiner to use the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention. Such an approach would be an illogical and inappropriate process by which to determine patentability." *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1457 (Fed. Cir. 1998). Furthermore, the references applied by the Examiner do not contain the requisite suggestion or motivation necessary to show obviousness of the claimed invention. See, *Smith Indus. Medical Sys. Inc. v. Vital Signs Inc.*, 51 U.S.P.Q.2d 1415, 1420-21 (Fed. Cir. 1999).

The Examiner has ignored or improperly discounted the secondary consideration of commercial success as presented in the Declarations under 37 C.F.R. §1.132 by inventor D. Mauer and customer H. Konig of Audi. These Declarations are clear that the commercial success is primarily based on the technical merit of the claimed invention. These Declarations must be given their proper objective and significant weight to defeat obviousness. See, *Stratoflex, Inc. v. Aeroquip Corp.*, 218

U.S.P.Q. 871, 880 (Fed Cir. 1983) (“secondary considerations must always . . . be considered”); *see also*, *Truswal Sys. Corp. v. Hydro-Air Eng’g. Inc.*, 2 U.S.P.Q.2d 1034, 1039 (Fed. Cir. 1987) (“secondary in time does not mean that it is secondary in importance”).

4. Lack of Suggestion to Combine References

None of the references cited by the Examiner disclose the above mentioned features, nor is there a suggestion or motivation to combine the cited references, and therefore, the claims at issue are patentably distinct over the cited references.

“Care must be taken to avoid hindsight reconstruction by using the patent-in-suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit.” *Grain Processing Corp. v. American Maize-Prods. Co.*, 5 U.S.P.Q.2d 1788, 1792 (Fed. Cir. 1988) (inner quotes omitted). The Examiner should not “pick and choose among the individual elements of assorted prior art references to recreate the claimed invention.” *Symbol Technologies Inc. v. Opticon Inc.*, 19 U.S.P.Q.2d 1241, 1246 (Fed. Cir. 1991). *See also*, *In re Wesslau*, 147 U.S.P.Q. 391, 393 (C.C.P.A. 1965). The Examiner must identify the explicit statements in the prior art that demonstrate the alleged motivation, suggestion or teaching, and broad “conclusory statements standing alone are not ‘evidence’.” *In re Kotzab*, 55 U.S.P.Q.2d 1313, 1317 (Fed. Cir. 2000); *see also*, *In re Dembiczak*, 50 U.S.P.Q.2d 1614 (Fed. Cir 1999). In this regard, the Examiner has respectfully failed.

In contrast to the Examiner's incorrect assertions, there is no suggestion or motivation to combine the electrically driven machine of Speller, Jr. et al. ('115) with the hydraulically actuated machine of the Japanese Hatanaka reference. To the contrary, the third party, Audi employee declaration of Konig states that in paragraph 6 that the "technology here employed is not to our knowledge usable for other, e.g., hydraulic, systems." (emphasis added). This is the statement from a third party customer, Audi, who was comparing a hydraulically driven self piercing riveting machine to the Emhart Tucker riveting machine disclosed and claimed in the present application.

Moreover, Speller, Jr. et al. ('115), at column 1, lines 20-27, and in column 2, lines 11-18, teaches away from and discourages the use of hydraulics for riveting machines. See generally, Winner Int'l Royalty Corp. v. Wang, 53 U.S.P.Q.2d 1580, 1588 (Fed. Cir. 2000), cert. denied, 530 U.S. 1238 (2000) (if a reference teaches away then that fact alone can defeat obviousness). Significant reengineering would be required to combine these two cited devices if that is even possible; it would clearly not be desirable given the background of the Speller, Jr. et al. ('115) patent and statement of the Audi employee. This is even more significant given that the Speller, Jr. et al. ('115) patent is primarily intended for use to upset a rivet adjacent the anvil 50 and not actually to receive and drive the rivet itself into a workpiece (see column 4, lines 4-8 of the '115 patent).

More specifically, it is significant that the cited references do not teach, suggest or motivate the claimed feature of a sensor indicating a riveting force characteristic, which is compared to previously stored data, for a rivet having a solid head and a diverging open end which does not completely penetrate a workpiece

farthest from the head. This claim element is completely missing from any of the cited references and provides significant advantages.

In the present situation, even if the cited references disclose the features incorrectly alleged by the Examiner, the suggestion or motivation to combine the disparate references to arrive at the elements as presently claimed, is severely lacking. The claimed invention has been improperly used as a template to combine these assorted and far flung elements, thereby requiring reversal of the instant rejection. Accordingly, it is respectfully requested that the Examiner's rejection be reversed.

G. 35 U.S.C. §103 Rejection of Claim 49

In the Final Office Action, the Examiner had rejected Claim 49 under 35 U.S.C. §103(a) as allegedly being unpatentable over Speller, Jr. et al. (U.S. Patent No. 5,829,115), Hatanaka (Japanese 169828), Gast (U.S. Patent No. 4,901,431) and Cotterill et al. (U.S. Patent No. 5,752,305).

1. Scope, Content and Differences of Prior Art

Under 35 U.S.C. §103, "the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined." *Graham v. John Deere Co. of Kansas City*, 148 U.S.P.Q. 459, 467 (U.S. 1966). In the Final Office Action, the Examiner has misstated (a) the scope and content of all of the cited references and (b) the Examiner has incorrectly analyzed the similarity and differences between all of the cited references as compared to the claimed invention.

2. Level of One Skilled in Art

The level of one of ordinary skill in the art of the present application would be a person with a mechanical engineering degree and about five years of experience in the design of riveting machines, or the equivalent practical experience. This skilled artisan would also need to have some exposure to high volume riveting of metal panels in a manufacturing plant, such as an automotive assembly plant.

3. Legal Errors by Examiner

The Examiner has incorrectly stated that Speller, Jr. et al. is 35 U.S.C. §102(b) prior art against the present application. See Paper No. 3. The Examiner then bases a 35 U.S.C. §103 rejection on this erroneous foundation. The grandparent U.S. application was filed on July 20, 1998 (claiming priority to a German application filed July 21, 1997) but the Speller, Jr. et al. patent did not issue until November 3, 1998.

Further in contrast to the Examiner's assertions, the presently claimed combination of elements in Claim 49 is new and nonobvious. "Virtually all inventions are combinations of old elements" such that "rejecting patents solely by finding prior art corollaries for the claimed elements would permit an examiner to use the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention. Such an approach would be an illogical and inappropriate process by which to determine patentability." *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1457 (Fed. Cir. 1998). Furthermore, the references applied by the Examiner do not contain the requisite suggestion or motivation necessary to show obviousness of the

claimed invention. See, *Smith Indus. Medical Sys. Inc. v. Vital Signs Inc.*, 51 U.S.P.Q.2d 1415, 1420-21 (Fed. Cir. 1999).

The Examiner has ignored the secondary consideration of commercial success as presented in the Declarations under 37 C.F.R. §1.132 by inventor D. Mauer and customer H. Konig of Audi. These Declarations are clear that the commercial success is primarily based on the technical merit of the claimed invention. These Declarations must be given their proper objective and significant weight to defeat obviousness. See, *Stratoflex, Inc. v. Aeroquip Corp.*, 218 U.S.P.Q. 871, 880 (Fed Cir. 1983) (“secondary considerations must always . . . be considered”); see also, *Truswal Sys. Corp. v. Hydro-Air Eng'g. Inc.*, 2 U.S.P.Q.2d 1034, 1039 (Fed. Cir. 1987) (“secondary in time does not mean that it is secondary in importance”).

4. Lack of Suggestion to Combine References

None of the references cited by the Examiner disclose the above mentioned features, nor is there a suggestion or motivation to combine the cited references, and therefore, the claims at issue are patentably distinct over the cited references.

“Care must be taken to avoid hindsight reconstruction by using the patent-in-suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit.” *Grain Processing Corp. v. American Maize-Prods. Co.*, 5 U.S.P.Q.2d 1788, 1792 (Fed. Cir. 1988) (inner quotes omitted). The Examiner should not “pick and choose among the individual elements of assorted prior art references to recreate the claimed invention.”

Symbol Technologies Inc. v. Opticon Inc., 19 U.S.P.Q.2d 1241, 1246 (Fed. Cir. 1991). See also, *In re Wesslau*, 147 U.S.P.Q. 391, 393 (C.C.P.A. 1965). The Examiner must identify the explicit statements in the prior art that demonstrate the alleged motivation, suggestion or teaching, and broad “conclusory statements standing alone are not ‘evidence’.” *In re Kotzab*, 55 U.S.P.Q.2d 1313, 1317 (Fed. Cir. 2000); see also, *In re Dembiczak*, 50 U.S.P.Q.2d 1614 (Fed. Cir. 1999). In this regard, the Examiner has respectfully failed.

In contrast to the Examiner’s incorrect assertions, there is no suggestion or motivation to combine the electrically driven machine of Speller, Jr. et al. (‘115) with the hydraulically actuated machine of the Japanese Hatanaka reference. To the contrary, the third party, Audi employee declaration of Konig states that in paragraph 6 that the “technology here employed is not to our knowledge usable for other, e.g., hydraulic, systems.” (emphasis added). This is the statement from a third party customer, Audi, who was comparing a hydraulically driven self piercing riveting machine to the Emhart Tucker riveting machine disclosed and claimed in the present application.

Moreover, *Speller, Jr. et al. (‘115)*, at column 1, lines 20-27, and in column 2, lines 11-18, teaches away from and discourages the use of hydraulics for riveting machines. See generally, *Winner Int’l Royalty Corp. v. Wang*, 53 U.S.P.Q.2d 1580, 1588 (Fed. Cir. 2000), *cert. denied*, 530 U.S. 1238 (2000) (if a reference teaches away then that fact alone can defeat obviousness). Significant reengineering would be required to combine these two cited devices if that is even possible; it would clearly not be desirable given the background of the *Speller, Jr. et al. (‘115)* patent and statement of the Audi employee. This is even more significant given that the *Speller, Jr. et al.*

('115) patent is primarily intended for use to upset a rivet adjacent the anvil 50 and not actually to receive and drive the rivet itself into a workpiece (see column 4, lines 4-8 of the '115 patent).

In the present situation, even if the cited references disclose the features incorrectly alleged by the Examiner, the suggestion or motivation to combine the disparate references to arrive at the elements as presently claimed, is severely lacking. The claimed invention has been improperly used as a template to combine these assorted and far flung elements, thereby requiring reversal of the instant rejection. Accordingly, it is respectfully requested that the Examiner's rejection be reversed.

IX. CONCLUSION

For the foregoing reasons, the Examiner's rejections should be reversed and the rejected Claims 1-53 allowed at the earliest possible date.

Respectfully submitted,

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By: 

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